COUNTY ADMINISTRATOR'S OFFICE
PIMA COUNTY GOVERNMENTAL CENTER
130 W. CONGRESS, FLOOR 10, TUCSON, AZ 85701-1317
(520) 724-8661 FAX (520) 724-8171

C.H. HUCKELBERRY
County Administrator

September 7, 2018

Mr. William James, National Mining Expert
U. S. Army Corps of Engineers
3701 Bell Road
Nashville, Tennessee 37214-2660

Re: **New Information and Response to Hudbay, Rosemont Copper Project ACOE Application No. SPL – 2008-00816-MB**

Dear Mr. James:

This letter responds to Hudbay's February 2, 2018 letter to Mr. William James and Ms. Deanna Cummings, which we only recently obtained through a Freedom of Information Act request. In that letter, Hudbay states that the mine's drawdown of groundwater must not be considered by the U. S. Army Corps of Engineers (Corps) in making a determination to issue the Section 404 permit. Pima County agrees with the Environmental Protection Agency (EPA) in its letter of November 30, 2017, to the Corps, that these effects are secondary effects on the aquatic ecosystem under the "Guidelines for the Specification of Disposal Sites for Dredged or Fill Material" found in 40 CFR § 230.11(h) (Guidelines), and must be considered as such when evaluating the project.[1] The Corps must also consider these effects in the public interest review mandated by 33 C.F.R. § 320.4. Groundwater emanating from the Santa Rita Mountains is a source of water supply for the Tucson Active Management Area, and sustains wetlands of national interest along Cienega Creek and other streams.

New Research

We have previously asserted the importance of the Rosemont area as a source of recharge based on USGS models, groundwater contours, and our own groundwater model, and now

[1] November 30, 2017 letter from Nancy Woo to Edwin Townsley; "EPA Analysis of Hudbay Minerals' *Final Mitigation and Monitoring Plan Permit NO. SPL-2008-00816-MB Rosemont Copper Project* (HMMP)," September 12, 2017.

new research clearly links the springs and wells in Las Cienegas to the Santa Rita Mountains[2]. We point you to newly completed research by Rachel Tucci (University of Arizona) that shows wetlands at the Las Cienegas National Conservation Area depend on water recharging in the Santa Rita Mountains, and not from recently recharged runoff infiltrating through streambeds in the basin[3]. Because the springs and wells appear to discharge from a confined aquifer that originates in the Santa Rita Mountains, our our concern is that changes in the pressure of water located in rock fractures and sediment pores at the mine site may quickly affect these nationally significant water features in Las Cienegas.

The models in the Final Environmental Impact Statement for the Rosemont project assumed an aquifer dominated by releases from fractured bedrock to the basin fill unit, and further assumed equal interconnectivity among the fractures. The degree to which these assumptions may hold true is poorly understood but Rosemont's own pump tests show hydraulic conductivity in the bedrock units greatly varies.[4] If fractured bedrock is largely responsible for groundwater movement to the basin fill unit in Las Cienegas, then impacts on Las Cienegas wetlands could be more sudden and profound than modeled. We are unaware of any pump tests that would have tested the characteristics of the bedrock beneath the basin fill unit south and east of the Rosemont area, but within the Rosemont area, unequal interconnectivity is evident in bedrock wells[5]

Response to Hudbay

The EPA, in their November 30, 2017 letter to the Corps, concludes the drawdown will have a substantial impact on the streams and related ecology. The EPA further determines, based on its interpretation of the Guidelines, that drawdown is a regulated secondary effect under § 404. Pima County fully supports both of EPA's conclusions.

The mine's dredge and fill activity could alter physical and biological integrity of some very important water sources and wetlands within Las Cienegas National Conservation Area, which support tourism, hunting and other forms of recreation, grazing and wildlife uses. These wetlands and springs are considered traditional cultural places, sacred to the Tohono O'odham and the shared heritage of Native people in the region, as evidenced by ongoing conflict over the Forest's decision.

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[2] See for instance C. H. Huckelberry to Reta LaFord, Acting Forest Supervisors, June 8, 2010.

[3] Tucci, R., 2018. Using isotopes and solute tracers to infer groundwater recharge and flow in the Cienega Creek watershed, SE Arizona. Master's thesis, Department of Hydrology and Water Resources, University of Arizona.

[4] Myers, T., 2010. Technical Memorandum Review of the Proposed Rosemont Ranch Mine, Hydrogeologic Analysis and Groundwater Model. February 1, 2010 in C. H. Huckelberry letter to Jeanine Derby, Forest Supervisor, February 17, 2010.

[5] Myers, T. 2010 Technical Memorandum, Davidson Canyon Conceptual Model and Natural Water Level Fluctuations, August 27, 2010 in C. H. Huckelberry letter to Jim Upchurch, Forest Supervisor, October 4, 2010.

Hudbay disagrees with the EPA's position that drawdown is a regulated secondary effect, but this disagreement is based entirely on a strained interpretation of an EPA legal opinion memo.[6] This memo addresses several questions regarding the scope of the Guidelines, including whether secondary impacts must be considered. The memo discusses *two separate types of impacts* that may be considered secondary: "reasonably foreseeable impacts of the discharge itself that occur away from the immediate site of the discharge" and "impacts that may be caused by the subsequent operation of a project or by associated development." Regarding the former type, the memo states, "there can be no serious doubt that such off-site effects are to be considered in deciding whether to allow the discharge." Regarding the latter type, it states, "When one moves beyond secondary impacts as defined above *to impacts caused by the subsequent operation of a project* or by associated development, the question becomes more difficult" requiring consideration of the impact's "causal connection, the predictability...and a general rule of reason." *Id* (emphasis added).

Despite this clear delineation, Hudbay asserts that groundwater drawdown resulting from the project is not a secondary effect, "because the impacts are not effects of the discharge itself; they are the effects of some other activity." (Hudbay letter, page 22). However, the example in the memo that Hudbay points to as most analogous to the Rosemont Copper Project (the barge-loading facility for an upland factory) is in fact not analogous at all, as the example describes two related, but *entirely separate* projects. Considering that Hudbay specifically identifies the mine pit in the § 404 permit application as an integral part of the Rosemont Copper Project, it can hardly be considered "some other activity."

Further, Hudbay ignores the relationship between the mine pumping and the changed hydrology resulting from fill operations on adjoining federal land. Surface water that currently flows through the planned filled areas would now be impounded in the perimeter containment areas, ultimately going into the mine pit as a result of the proposed construction in Waters of the US. The need to pump water from the mine pit results in part from this redirection and impoundment of the surface flows by the fill. Thus, the groundwater drawdown is undoubtedly an effect caused by the subsequent operation of the project.

The Guidelines define "secondary impacts on the aquatic ecosystem" as those "that are *associated* with a discharge of dredged or fill materials" (emphasis added). This language intentionally gives the agency discretion to determine whether a reasonably foreseeable effect of a project qualifies as a secondary effect under the Guidelines. Based on the discussion above, the EPA is clearly well within its discretion to find that groundwater

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[6] "Legal Issues Concerning Section 404(b)(1) Guidelines", Robert Perry, EPA General Counsel, to Frederic Eidsness, EPA Asst. Admin., March 17, 1983.

drawdown is a regulated secondary effect of the project under the Guidelines, and we strongly agree with this finding.

Hudbay spends a great deal of effort in its February 2 letter trying to show the drawdown impact on downstream ecology is negligible and uncertain. However, that very uncertainty should enhance the Corps' concern about the mine's potential impacts on the area hydrology, and not provide a release of responsibility for impacts.

Public Interest Determination

In addition to complying with the Guidelines, the project must also undergo a separate evaluation to ensure it is not contrary to the public interest, as mandated by 33 CFR § 320.4. As stated in the Corps' Standard Operating Procedures, "The Public Interest Determination involves much more than an evaluation of impacts to wetlands."[7] It requires an evaluation of *all* probable impacts, "including cumulative impacts of the proposed activity and its intended use on the public interest." § 320.4(a). As the regulations state, "All factors which may be relevant to the proposal must be considered including the cumulative effects thereof: among those are conservation, ... general environmental concerns, wetlands, historic properties, fish and wildlife values, flood hazards, floodplain values, land use, navigation, ... recreation, water supply and conservation, water quality, ... considerations of property ownership and, in general, the needs and welfare of the people." *Id.* Clearly, groundwater drawdown is a probable impact of the project and it must be included in the public interest evaluation.

The public interest review also provides for substantial consideration for another federal agency's determination to proceed. The Forest Service felt they were required to approve the mine by the 1872 Mining Law, so their decision is not entitled to this consideration. Further, in rejecting backfilling of the pit, the Forest Service has ensured the Corps can only approve or deny a course of action that creates a perpetual drain on the aquifer. Bear in mind, also, that U. S. Bureau of Land Management was denied a decision when the access road was routed around their property. The record shows they expressed their concerns regarding detrimental effects on Las Cienegas National Conservation Area and did not relinquish any federal surface and groundwater rights to this mine[8].

Clearly, the decision before you is a distressing, multi-dimensional problem as evidenced by over a decade of community turmoil that shows no sign of abating. The Corps must consider the secondary and cumulative effects. I appreciate your continued consideration of the

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[7] "Army Corps of Engineers Standard Operating Procedures for the Regulatory Program," reprinted in *Compensating for Wetland Losses Under the Clean Water Act*, National Academy of Sciences (2001).

[8] David Baker, U. S. Bureau of Land Management, to Jim Upchurch, Forest Supervisor, Comments on the Rosemont Copper Project, Final EIS, Preliminary Adminstrative Review Draft, July 2013, letter dated August 15, 2013.

adverse and irreversible effects that permitting this mine could have on the region and its future viability.

Sincerely,

C.H. Huckelberry
County Administrator

CHH/mp

c: Elizabeth Goldmann, U. S. Environmental Protection Agency